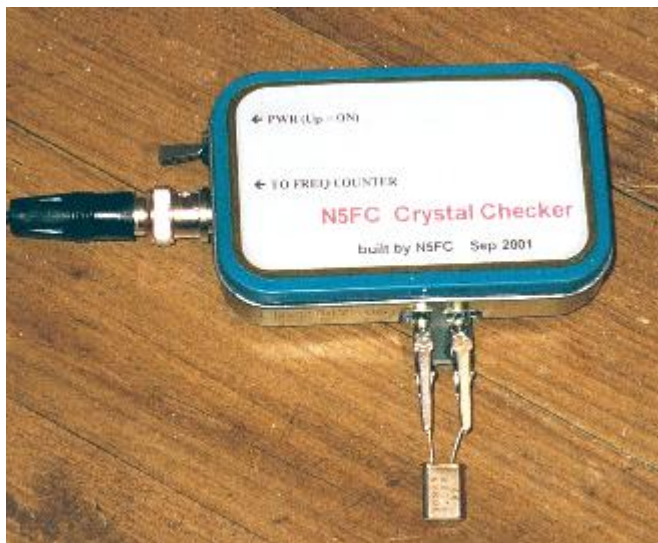


N5ESE's Crystal Checker

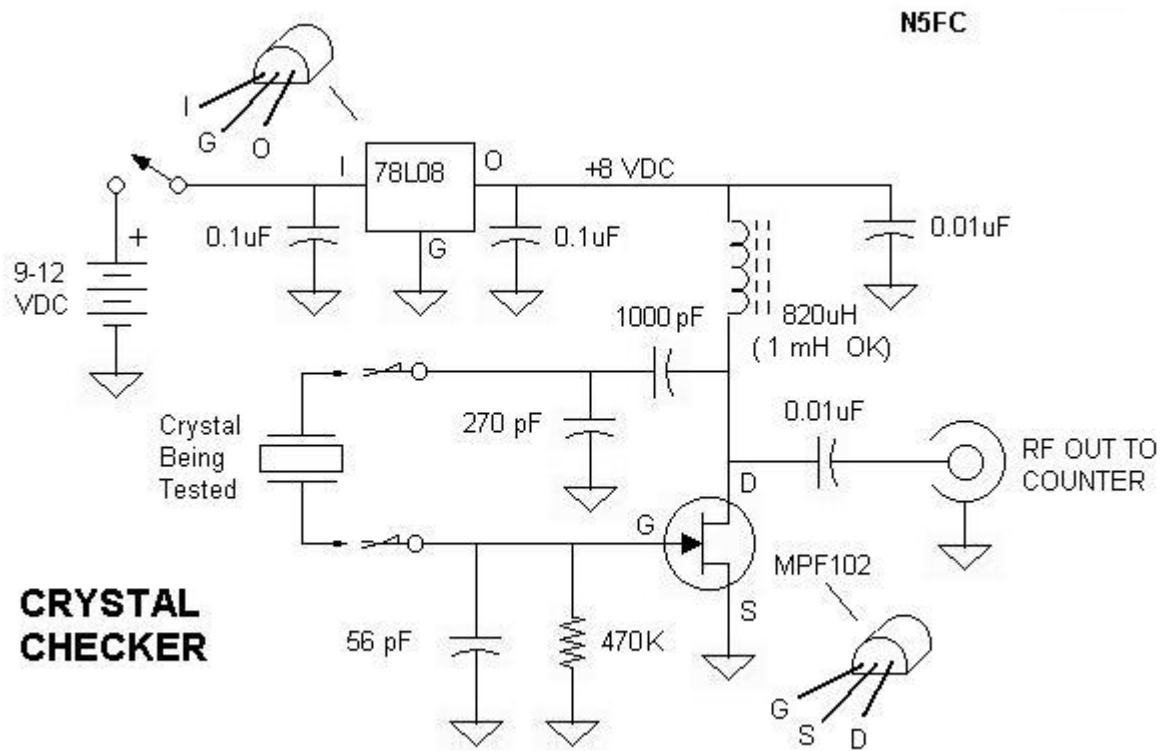


(click on any picture to see larger version)

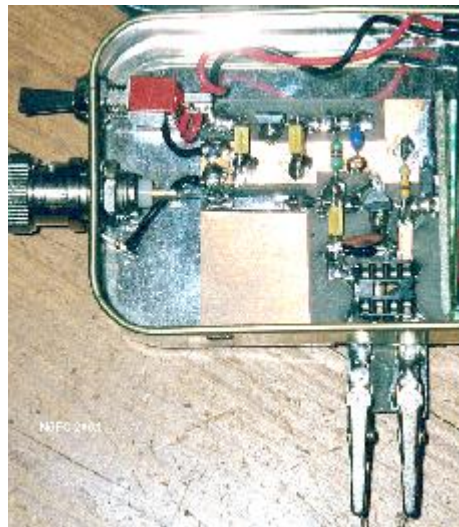
NOTE: 'N5FC' is my former call.
This project was constructed while that call was valid, and you may observe references to it.

The N5ESE Crystal Checker is a weekend project based on a simple oscillator circuit designed to work readily with most any fundamental-mode crystal in the HF range. Used in conjunction with a frequency counter, it allows you to test the viability of unknown crystals, or match a bunch of crystals for use in filters.

The circuit is quite straightforward. It was adapted from a similar circuit by W1FB, presented in QST Jan 1990. The schematic, as built, appears below:



I love putting things in Altoids boxes (could you tell?). This project was the perfect size for it. We built a small printed circuit board (PCB), cutting islands and traces using a hobby knife (CAUTION! Wear Safety Glasses!). The PCB is shown below:

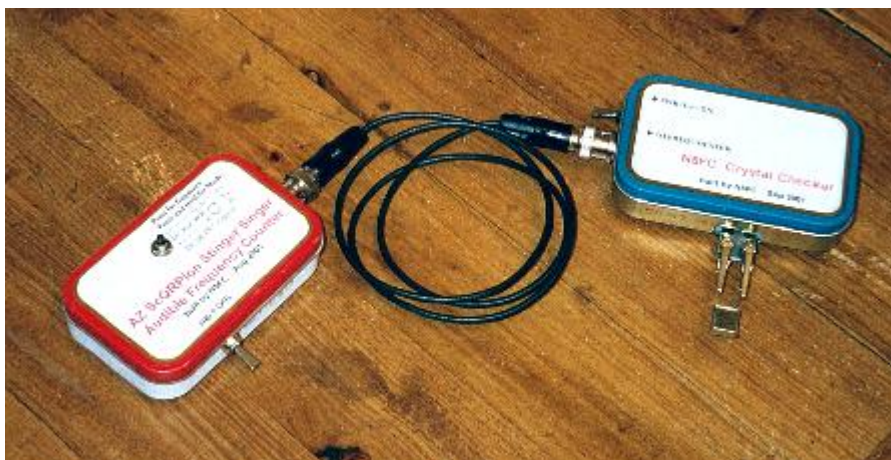


As you can see, the PCB extends through a hole in the Altoids box, where two alligator clips (RS 270-380) are solder-mounted. We can clip our crystal here, for testing. An 8-pin DIP socket is also included, surface-mounted to the top of the board, and we can mount a crystal here instead, if we like.

The Altoids box has plenty of room for a 9-Volt battery, making the unit self-contained and readily portable.



In use, we connect a frequency counter to the Crystal Checker's output, via a BNC cable, and connect a crystal for testing. See below, where we have connected it to the AzQRPions Stinger Singer Audible Frequency Counter (packaged N5ESE-style, in an Altoids box, of course...)



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